Abstract

The invention relates to an autofocusing method, particularly for telescopes for surveying instruments which are fitted with image sensors that resolve the image signal into individual image elements (pixels), such as CCD lines and/or matrices as well as CMOS image sensors. On the basis of the pixel that is located closest to the optical axis, the local signal amplitude is calculated from the monotonically decreasing or increasing signal all the way to the next local maximum and minimum. In this process, as long as this local signal amplitude is considerably smaller than the maximum signal and the focusing member of the telescope lens is in the focusing position for short focusing distances, this focusing member is shifted in large increments. Depending on the magnitude of the local signal amplitude, the focusing distance is shortened in the area of greater focusing distances in relation to the maximum signal and to the position of the focusing member. At a certain magnitude of the local signal amplitude in relation to the maximum signal, the cross correlation functions (CCF) are each additionally formed from several pixels of the signal and from suitable comparison structures and, at a certain ratio of a reference function formed on the basis of the CCF to the local signal amplitude, an increment range that is comparable to the optical depth of field is selected and focused to the maximum of the CCF.